

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/GB2004/002796

International filing date (day/month/year)
01.07.2004

Priority date (day/month/year)
11.07.2003

International Patent Classification (IPC) or both national classification and IPC
E01B9/62

Applicant
PANDROL LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**International application No.
PCT/GB2004/002796**IAP20 Rec'd PCT/PTO 29 DEC 2005****Box-No. I Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
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International application No.
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Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 8-13,14*-17*,18*,19* (* when dependent on claims 8-13); 20,21

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos. 8-13,14*-17*,18*,19* (* when dependent on claims 8-13); 20,21
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
 - the written form ☐ has not been furnished
 - ☐ does not comply with the standard
 - the computer readable form ☐ has not been furnished
 - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
- ☐ See separate sheet for further details

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/002796

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☒ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☒ the parts relating to claims Nos. 1-7,10-19 when dependent on claims 1-7

Box No. V Reasoned statement under Rule 43bis.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-7,10-19
	No: Claims	
Inventive step (IS)	Yes: Claims	1-7,10-19
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-7,10-19
	No: Claims	

2. Citations and explanations

see separate sheet

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International application No.
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Box No. VI Certain documents cited

1. Certain published documents (Rules 43*bis*.1 and 70.10)
and / or
2. Non-written disclosures (Rules 43*bis*.1 and 70.9)
see form 210

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/GB2004/002796

IAP20 Rec'd PCT/PTO 29 DEC 2005

Re Item IV : Lack of unity of invention

1.1 This Authority found multiple groups of inventions in this international application :

(i) claims 1-7,10-13,14-17,18,19 : a tuned absorber with an active mass and a member in use coupled to the rail; a tuned absorber assembly comprising a tuned absorber as claimed in claims 1-7; a method of mounting a tuned absorber as claimed in claims 1-7;

(ii) claims 8-13,14-17,18,19 : a tuned absorber with active masses which are coupled in a first frequency range and decoupled in a second; a tuned absorber assembly comprising a tuned absorber as claimed in claims 8-13; a method of mounting a tuned absorber as claimed in claims 8-13;

(iii) claims 20,21 : a tuned absorber assembly with an attachment means comprising a spring steel strap.

The Authority is of the opinion that in the present application three inventions are claimed.

1.2 WO-A-9915732 (cf. Fig. 1,2) is considered to represent the prior art as mentioned in Rule 32 PCT. This document discloses a tuned absorber for attachment to a railway rail, which absorber comprises a body formed of elastic material and of two regions of a material which are denser than the said elastomeric material and form active masses. The second region can be construed as the "member" of claim 1, since it reads on all the corresponding technical features. Attachment to the rail is done by glueing or curing in place.

1.3 The special technical features (STF's) of the inventions, as defined in Rule 13.2 PCT, can therefore be regarded to be :

- (i) - the member (second region) is coupled to the rail when in use so as to provide a resonant surface against which the said active mass can vibrate;
- (ii) - masses are arranged so as to be effectively coupled in a first frequency range and decoupled in a second;
- (iii) - the attachment means for the tuned absorber comprises a spring steel strap.

1.4 The three respective groups of STF's mentioned above are obviously not the same. Furthermore they cannot be regarded as being mutually corresponding since they aim to solve different unrelated problems, namely:

- (i) increase the stiffness of the system;
- (ii) increase the ability to absorb energy;
- (iii) provide alternative fixing means for an absorber.

1.5 Consequently there is no technical relationship between the first, second and third group of inventions involving the same or corresponding STF's (cf. Rule 13.2 PCT). Thus, no single inventive concept is linking them together such that the requirement of unity set out in Rule 13.1 PCT is not fulfilled.

Re Item V : Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

2.1 WO-A-9915732 (D1, cf. Fig. 1,2) is considered to represent the most relevant prior art for claim 1. The subject-matter of this claim differs from what is known from D1 in that (cf. paragraph 1.3) the member (second region) is coupled to the rail when in use so as to provide a resonant surface against which the said active mass can vibrate. The subject-matter of claim 1 and of the dependent claims 2-7,10-17 is therefore novel, Article 33(2) PCT.

2.2 A member located within the elastomeric material of the absorber and coupled to the rail when in use, thereby providing a resonant surface against which the active mass can vibrate is not known in the prior art, nor hinted at. DE-A-3605831 (D3, cf. Fig. 3) discloses a tuned absorber with two or three members (16) coupled to the rail, without an active mass. DE-A-3939215 (D2, cf. Fig. 1) discloses a member (7) coupled to the rail and within the elastomeric material, however the damper is not a tuned absorber with an active mass and the member can therefore not fulfill the function of resonant surface against which an active mass can vibrate. In this disclosure the member is a mere fixing means. Thus, the solution to this problem of creating an increased stiffness as proposed in claims 1-7,10-17 of the present application is considered to involve an inventive step, Article 33(3) PCT.

3. Independent method claim 18 describes a method for mounting a tuned absorber and

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AUTHORITY (SEPARATE SHEET)**

International application No.

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has a direct reference to the new and inventive claim 1. Thus claim 18 and appended claim 19 are considered to be new, Article 33(2) PCT, and involve an inventive step, Article 33(3) PCT.

4. Present claims 1-7,10-19 are considered to be industrially applicable and therefore meet the criteria of Article 33(4) PCT.

Re Item VI : Certain documents cited

5. With reference to PCT Rule 64.3, 70.10 and PCT/GL/ISPE/1-16.67 and 17.44 it is observed that the international patent application WO2004079095 (D4) filed on 27-02-2004 and published on 16-09-2004 claims the priority date of 05-03-2003.